

Response to Comments on Preliminary Minor Permit No. AQ0264MSS03 Eielson Air Force Base – Rock Crusher Project

Prepared by Zeena Siddeek June 6, 2008

This document provides the Alaska Department of Environmental Conservation's (Department's) reply to all public comments on the preliminary decision to issue Minor Permit No. AQ0264MSS03 to the United States Air Force (USAF), for the Rock Crusher Project at Eielson Air Force Base (EAFB). The Department provided opportunity for public comment on the permit starting May 2, 2008 and ending June 2, 2008.

The comments are paraphrased below in Arial font. The Department's responses are shown in *Times New Roman italic font*.

Commenter: USAF

Comments on the permit:

1. Permit Signature Page; Permit Number - The preliminary permit number is AQ0264MSS03. The most recent minor permit issued to Eielson Air Force Base (Eielson AFB) is numbered AQ0264MSS01. Please confirm that permit number AQ0264MSS03 is the next number in line to be issued for Eielson AFB.

Response: After permit AQ0264MSS01 was issued, and prior to this permit application, USAF submitted another application in March of 2007 for changes to the central heat and power plant (CHPP). Although the application for the CHPP was withdrawn and no permit was issued, the application was designated a place holder in the sequence of permit applications. Therefore, the Department will retain the permit numbering and no changes will be made.

2. Permit Signature Page, Permit Contact – Please update the permit contact information because this information has changed since the submittal of the minor permit application. The correct information is Katherine Stringham at 907-377-3313. Katherine Stringham's e-mail address is katherine.stringham@eielson.af.mil.

Response: Permit revised as requested.

3. Section 1, Table 1. Table Format - Please format Table 1, "Minor Permit Emission Unit Inventory," so that the entire table appears on a single page in the permit. This format will make the permit much more easily used. One suggestion to accomplish this reformatting is to combine Emission Units 62 and 63 on a single line.

Response: Permit revised as requested.

4. Condition 3. – Please amend this condition as follows to delete Emission Units 75, 76, and 84 from this condition. These emission units are correctly included in Condition 5.

The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Emission Units 64 through 74 83 and 77 though 83 listed in table 1 to reduce visibility through the exhaust by more than 20 percent averaged over any six consecutive minutes..

Response: Condition 3 pertains to visible emissions monitoring for fugitive dust for transfer points. Condition 3 erroneously included the diesel engine Units 75, 76 and 84. The

requirements for diesel engines are elsewhere in the permit. Therefore, the Department revised the condition as requested.

5. Condition 3.1 – Please amend this condition as follows to delete Emission Units 75, 76, and 84 from this condition. These emission units are correctly included in Condition 5.

Conduct visible emission surveillance for each Emission Unit 63 through 74 84 and 77 through 83 listed in Table 1 as follows.

Response: Condition 3.1 also pertains to visible emissions monitoring for fugitive dust for transfer points. This condition erroneously included the diesel engine Units 75, 76 and 84. Therefore, the Department revised the condition as requested.

6. Condition 3.1c(i) – Please amend this condition as follows because this one time requirement has already been satisfied for Emission Units 64 through 74.

Within two days of initial startup, if not already conducted.

Response: The Department's intention is to require a one time initial compliance demonstration. If the requirement was fulfilled, there is no need repeat the demonstration unless the unit is relocated. As such, the Department will revise the condition as requested.

7. Condition 4 – Please amend this condition as follows to delete Emission Units 75, 76, and 84 from this condition. These emission units are correctly included in Condition 6.

The Permittee shall not cause or allow particulate matter (PM) emitted from Emission Units 64 through 74 84 and 76 through 83 listed in Table 1 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

Response: The emission units subject to condition 4 are the transfer points, Units 64 through 74 and 77 through 83. These were erroneously referenced in the public comment draft permit. Please also see comment 5 above. The Department has revised the condition to reflect the correct unit numbers.

8. Condition 5.1 – Please amend this condition as follows because this one time requirement has already been satisfied for Emission Units 75 and 76, but not for Emission Unit 84.

Conduct an initial visible emission surveillance for Emission Unit 84 ~~Emission Units 75 and 76~~ within six months after installation, using Method 9 as described in condition 36.1

*Response: Condition 5.1 requires USAF to submit initial compliance demonstration for visible emissions standards for Units 75 and 76. These units were authorized in permit AQ0264MSS01 and the requirement was carried over from permit AQ0264MSS01 to the public comment draft permit AQ0264MSS03. The USAF has submitted copies of the initial compliance demonstration for Units 75 and 76 for our files. Therefore, the one time requirement is obsolete and has been removed from the permit. In minor permits issued under 18 AAC 50.502(c) (the classification of Permit AQ0264MSS01), the Department must include "a performance test for emission limits under 18 AAC 50.050 – 18 AAC 50.090. . ." (see 18 AAC 50.544(c)(2)). In contrast, a minor permit issued under 18 AAC 50.502(b) or 18 AAC 50.508(6) need **not** include a performance test requirement (see 18 AAC 50.544(b) and 18 AAC 50.544(i), respectively). Hence, the Department did not include this requirement in the permit.*

9. Condition 6.1 and 6.2 – Please delete these conditions as they are no longer necessary. The guaranteed vendor data for particulate matter emissions representative of maximum load and rated speed (330 kilowatts at 1,800 revolutions per minute) for Emission Unit 75 is 0.15 gram per kilowatt hour (g/kw-hr.) The John Deere vendor data are attached to these comments. As shown on page B-3 of the minor air permit application, this particulate matter emission rate equates to 0.028 grains per dry standard cubic foot (gr/dscf). That emission rate is below the state emission standard of 0.05 gr/dscf.

Response: USAF submitted PM emissions test data for the John Deere engine model for Unit 84. Vendor emissions data shows that the PM emission rate is 0.15 g/kW-hr. USAF used the emission rate and 40 CFR 60 Method 19 to show that the engine complies with the particulate matter standards. As such the Department removed the requirement.

10. Condition 8 - Please amend the first sentence of this condition as follows to be consistent with updated potential emission calculations. The potential to emit calculations for the crusher project have been revised using guaranteed vendor data from John Deere for nitrogen oxides (NO_x), carbon monoxide (CO), and respirable particulate matter (PM₁₀) emissions representative of maximum load and rated speed (330 kilowatts at 1,800 revolutions per minute) for Emission Units 75 and 84. The updated calculations are attached to these comments. The calculations demonstrate that the Prevention of Significant Deterioration (PSD) major modification avoidance limit of 4,000 hours per 12 consecutive months for Emission Units 75, 76, and 84 will be sufficient to avoid PSD applicability for NO_x under 40 Code of Federal Regulation (CFR) 52.21(b)(23)(i).

The Permittee shall limit operations for Emission Units 75, and 76, and 84 to 4,000 hours ~~3,500 hrs~~ each per 12 consecutive months.

Response: In Permit AQ0264MSS01, the Department limited Units 75 and 76 to a combined total of 2,184,000 hp-hours, in order to avoid PSD major modification review for that permit action. In the application for Permit AQ0264MSS03, USAF requested that the Department revise this to an "hour per 12 month" limit for each Unit 75 and 76. In the application for Permit AQ0264MSS03, USAF also requested an "hour per 12 month limit" for the new jaw crusher, in order to avoid classification under 18 AAC 50.502(c) for the new jaw crusher. The Department based the 3,500 hour per 12 month limits for Units 75 and 76 (each), and the 1,350 hour per 12 month limit for Unit 84 in the public comment draft of Permit AQ0264MSS03 on AP-42 emission factors.

As described in Section 2.2 of the TAR, the USAF has shown that, using emissions test data for the John Deere engine 6125H (Units 75 and 84) submitted with their comments; they can operate Units 75 and 76 up to 4,000 hour per year, each, and still comply with the original PSD modification avoidance limit established in Permit No. AQ0264MSS01. Using the same data, they have also shown that they can operate Unit 84 up to 4,000 hours per 12 consecutive months and avoid minor permit classification under 18 AAC 50.502(c)(3) for the new jaw crusher. The Department has revised the permit accordingly.

11. Condition 8.3 – Please amend this condition as follows to clarify that the monthly operating hours that must be totaled by the 15th of each month are for the previous 12 months. Please also amend this condition to be consistent with the requested change to Condition 8.

No later than the 15th of each month, add the monthly operating hours for the previous month for each of Emission Unit 75, and 76, and 84 to the total for the previous 11 months previous to the previous month, to get the 12 month total for each unit.

Response: Permit revised as request and as described in response to comment 10.

12. Condition 8.4 – Please amend this condition as follows to be consistent with the requested change to Condition 8.

If the 12 month total in condition 8.3 exceeds 4,000 hours ~~3,500~~ for either Emission ~~any of the~~ Unit 75, and 76, or 84, report as excess emissions under condition 22.

Response: Permit revised as request and as described in response to comment 10.

13. Condition 9 – Please delete this condition consistent with the requested change to Condition 8

Response: Condition 9 of the public comment draft permit contained a limit of 1,350 hours of operation for Unit 84 to avoid minor permitting for NO_x. The limit was revised to 4,000 hours based on the vendor emission data that USAF submitted with their comments to the public comment draft permit. The limit for Units 75 and 76 is also 4,000 hours to avoid PSD permitting for the original rock crusher project. Therefore, the Department agrees with USAF to combine Condition 8 (for Unit 75 and 76) and Condition 9 (for Unit 84) in to one condition. However, the Department has revised the suggested language to clarify the basis for the limits.

14. Condition 36.1(a) - Please amend this condition as follows to recognize that the initial observation has been previously conducted for Emission Units 75 and 76.

If not previously conducted, observe exhaust for 18 minutes within six months after the issued date of this permit or, in all cases, within 14 calendar days after changing from the Smoke/No Smoke Plan of condition 36.2, whichever is later.

Response: Condition 36.1(a) of the public comment draft permit, is part of the standard permit condition for VE and PM monitoring requiring that for each of Units 75, 76 and 84 the first Method 9 reading be done 6 months after issue of this permit. The department agrees that for Units 75 and 76, the first time reading has been done. However, this condition (condition 34 of the final permit) is part of the standard permit condition for VE and PM monitoring for Title V permitting that the Department will incorporate as an administrative revision. Editing the requirement may pose issues when incorporating it as an administrative revision. The Department does not foresee any compliance issues with retaining the condition as is. However, if USAF needs to change it then they must do it during the Title V renewal.

15. Condition 40 – Please delete this condition as it is unnecessary. The stack diameter information required under this condition is instead provided below.

- Emission Unit 75: Stack diameter is 5 inches
- Emission Unit 76: Stack diameter is 2.5 inches
- Emission Unit 84: Stack Diameter is 4.75 inches

Response: Condition 40 of the draft permit is also part of the standard permit conditions for PM monitoring that are part of the Title V permit requirements for Eielson. For reasons

discussed in response to comment 14, the department cannot remove this condition. As outlined in the required operating report in permit AQ0264TVP01, USAF must follow the procedures in the operating report including a certification of true and accurate. As such the Department will retain the condition.

TAR for Permit No. AQ0264MSS03

16. Section 1 Introduction, 2nd paragraph: Basis is incorrectly spelled as BASES, please correct the spelling.

Response: The term 'bases' is the plural of 'basis' and is correctly referenced. Therefore, no change is warranted.

17. Section 2: Please revise this section and Tables 1 and 2 to incorporate the updated emission calculations using attached vendor data from John Deere. Refer to updated potential to emit calculations and the comments/discussion on conditions 8 and 9 above.

Response: Section 2 revised consistent with the

18. Section 2.2 (3): Please amend the second to last sentence as follows:

"...listed in 40 CFR 52.21(b)(23)(i). See Table 1..."

Response: The change has been made to the TAR.

19. Table 2 Assessable Emissions: The superscript in Table 2 is "b" however, the note below the table is labeled with an "a". Note should be changed to "b".

Response: The change has been made to the TAR.

20. Section 4 Permit Requirements: Please amend last sentence as follows :

"...18 AAC 50.502(b)(3) and 18 AAC 50.508(6)."

Response: The change has been made to the TAR.

21. Section 4.1.1 State Emission Standards for Diesel Engines, Particulate Matter section, 2nd sentence: The particulate matter compliance demonstration for the jaw crusher engine (Unit 84) used the guaranteed vendor data for particulate matter emissions representative of maximum load and rated speed (330 kilowatts at 1,800 revolutions per minute) for the engine. Refer to the comment/discussion for condition 6.1 and 6.2 above.

Response: The requested change was made. The section number in the final permit is 4.2

22. Section 4.1.1 State Emission Standards for Asphalt/Rock Crushers, Sulfur Dioxide section, 2nd sentence: Basis is incorrectly spelled as BASES, please correct the spelling.

Response: The term 'bases' is in reference to plural of 'basis' and is correctly stated. Therefore, no change is needed. The section number in the final permit is 4.3.

23. Section 4.1.2 Limit to avoid minor permitting requirements for NO_x: Consistent with the comments/discussion for conditions 8 and 9 above, please amend this section as follows:

"The permit contains an ORL of 4,000 hrs/yr for Unit 84 to avoid the need for a minor permit for NO_x. The NO_x emissions from Unit 84, is based on vendor data emission factor of 4.22 grams/hp-hr. With this limit, the increase in the NO_x PTE is 8.37 tpy and below the 10 tpy threshold for a minor permit."

Response: The requested change to the TAR was made. The section number in the final permit is 4.4

24. Section 4.1.3 Limit to avoid PSD for NO_x: Consistent with the comments/discussion for conditions 8 and above, please amend this section as follows:

"The permit contains an ORL of 4,000 hrs/yr for Units 75 and 76, to avoid PSD for NO_x. The NO_x emissions for Unit 76 is based on AP-42, Table 3.3-1 emission factor of 0.031lb/hp-hr. The NO_x emissions for Unit 75, is based on vendor data emission factor of 4.22 grams/hp-hr. With this limit and NO_x emissions from Unit 84, the PTE for the rock/asphalt crusher and jaw crusher project is 22.95 tpy, and below the 40 tpy threshold for PSD."

Response: The requested change to the TAR was made. The section number in the final permit is 4.5.

25. Section 4.1.4 Ambient Air Quality Protection Requirements: Please amend the first sentence as follows:

"...a permit application under 18 AAC 50.508(6) must include..."

Response: The requested change to the TAR was made. See condition 4.6 of the final TAR.

26. Section 4.1.7 Recording, Reporting, and Certification Requirements: Please amend the first and second sentences as follows:

"....described in 18 AAC 50.345(h). Information request requirements are specifically required under 18 AAC 50.200. Certification ..."

Response: The requested change to the TAR was made. See condition 4.9 of the Final TAR.